

# Fort Hood Semi-Annual Weather Briefing

# SUMMER TRANSITION SEASON



**3d Weather Squadron  
(3 WS)**

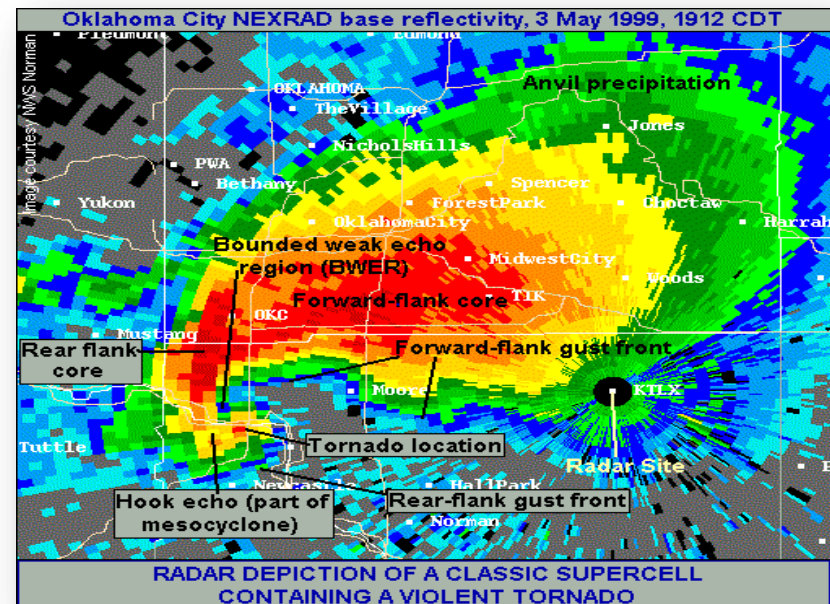
Updated 12 April 2012



# OVERVIEW



- ➡ Local Area Influences
- ➡ Summer Climatology
- ➡ Hazards
- ➡ Training Areas
- ➡ Watches/Warnings/Advisories
- ➡ Weather Operations
- ➡ POCs





# Summer Synoptic Pattern



- ➡ Marked by the northward movement of the Bermuda High
- ➡ Few true frontal passages with the Polar Front Jet remaining well north, keeping region hot & humid
  - Few that do pass are weak and mainly affect the panhandle region
- ➡ Most weather associated with Gulf moisture, dryline--“Marfa Front”

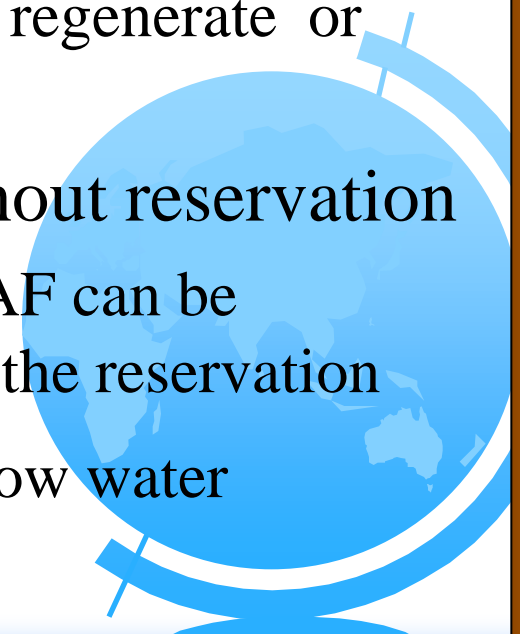




# Local Area Influences

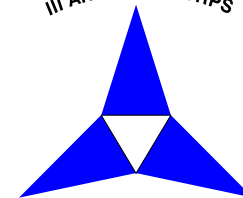


- ☞ Rolling hills with peaks up to 1,500'
- ☞ Large lake areas and abundant foliage
  - Act as moisture sources for thunderstorms and fog
- ☞ Flat basin surrounded by hills
- ☞ “I-35 Rule” - Storms dissipate over us; regenerate or intensify east of I-35
- ☞ Isolated weather conditions throughout reservation
  - What looks good at RGAAF and HAAF can be different on the north and east-side of the reservation
- ☞ Low river crossings, hard ground, low water retention causes flash flood situations

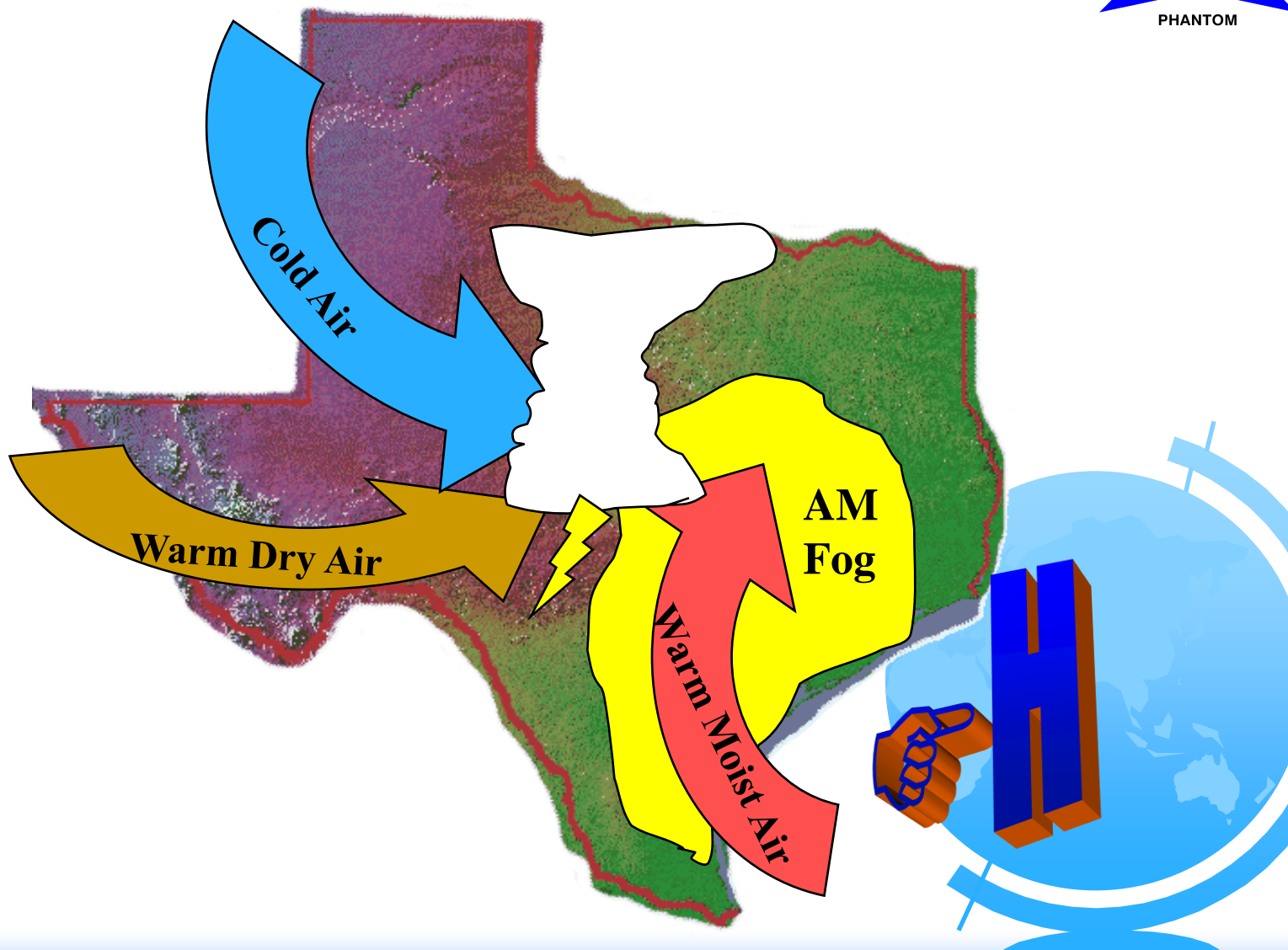




III ARMORED CORPS



# Weather Influences







# Summer Weather



- ☞ Dominated by high temperatures and isolated afternoon and evening thunderstorms (primarily early summer)
  - Average high temperatures are in the mid 90s and lows in the low 70s
  - Extremes range from 55F to 111F
- ☞ Early Summer is the rainy season
  - Mostly from thunderstorms

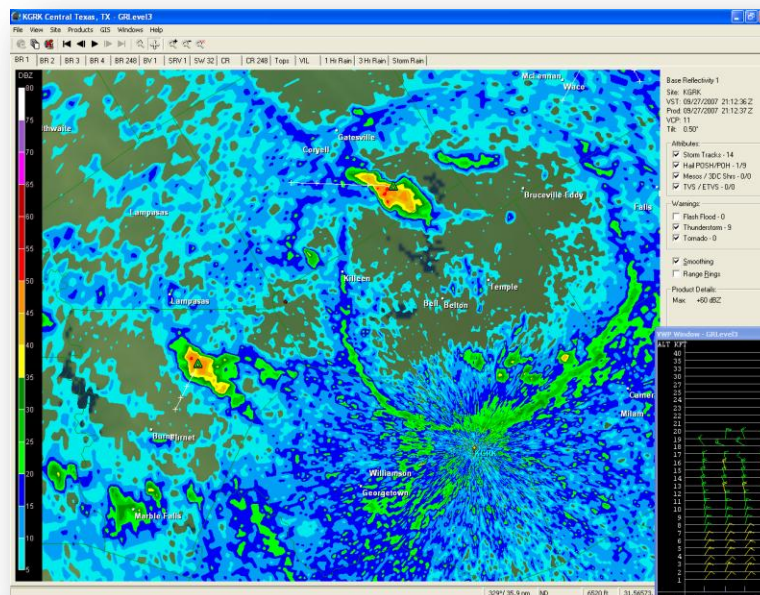




# Summer Weather (Cont)



- ☞ Air mass thunderstorms form during the heat of the day and generally move slowly with weak steering flow aloft or can remain stationary late afternoon and early evening





# Climatological Data



**May Jun Jul Aug Sep**

## Temperature

Mean Max (F)	83	90	95	94	88
Mean Min (F)	64	71	74	74	68
Extm Max (F)	102	108*	109	108	111

## Precipitation

Mean Month (inch)	4.4	3.6	1.8	2.7	2.5
Mean # TSTM Days	8	7	5	5	4







# CEILING CLIMO

## (< 1,000 Ft)



% Ceiling < 1000 ft

Name: ROBERT GRAY AAF, TX United States Block Station: 722576

ICAO: KGRK Lat: 31.067 Lon: -97.833 Time Offset: -6.00

Data Derived from 14WS Surface Observation Database / POR: 1973 - 2005

14WS (AFWA)

151 Patton Ave, Rm 120  
Asheville, NC 28801-5002

23Z (17L)	14	12	9	4	2	1	0	1	3	5	10	14
22Z (16L)	15	12	7	5	2	1	0	1	3	5	9	14
21Z (15L)	15	12	8	5	2	1	0	0	3	6	10	14
20Z (14L)	16	13	10	6	1	1	0	1	3	7	10	15
19Z (13L)	19	15	11	7	2	2	0	1	3	8	12	15
18Z (12L)	20	17	13	8	3	1	1	1	5	9	11	17
17Z (11L)	24	20	17	11	5	2	1	2	6	11	14	20
16Z (10L)	25	25	20	14	7	4	1	3	7	14	19	23
15Z (09L)	27	27	22	19	12	5	2	4	11	20	23	25
14Z (08L)	27	27	25	23	16	10	4	6	15	24	26	25
13Z (07L)	27	29	24	25	21	13	7	7	17	25	25	25
12Z (06L)	26	28	25	22	21	12	7	6	16	25	23	23
11Z (05L)	25	24	22	18	20	13	6	5	12	19	21	22
10Z (04L)	27	23	21	16	17	11	5	5	12	18	21	22
09Z (03L)	25	23	20	15	12	7	4	4	10	17	19	21
08Z (02L)	24	20	18	14	10	6	3	3	10	15	17	21
07Z (01L)	22	19	18	11	9	4	2	2	9	12	17	20
06Z (00L)	21	17	17	9	7	3	2	2	6	10	14	19
05Z (23L)	20	16	14	9	5	3	1	2	5	9	14	20
04Z (22L)	18	16	12	8	4	2	1	1	4	8	13	17
03Z (21L)	16	14	11	6	3	2	1	1	4	7	13	16
02Z (20L)	14	16	11	6	3	2	0	1	3	6	12	15
01Z (19L)	14	14	10	5	3	1	0	1	3	5	11	14
00Z (18L)	14	13	10	5	2	1	0	1	3	5	10	13

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec





# VISIBILITY CLIMO

## (< 3 SM)



### % Visibility < 3 SM

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ICAO: KGRK Lat: 31.067 Lon: -97.833 Time Offset: -6.00

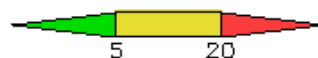
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22Z (16L)	9	8	4	2	2	1	0	1	2	3	4	8
21Z (15L)	9	7	4	3	2	1	0	1	2	3	5	8
20Z (14L)	10	6	5	3	1	1	0	1	3	2	4	9
19Z (13L)	11	7	5	4	1	1	1	1	2	3	5	9
18Z (12L)	11	7	8	3	2	1	0	1	3	3	5	9
17Z (11L)	15	9	8	5	2	1	1	0	3	4	7	9
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00Z (18L)	10	8	6	3	1	1	0	0	2	3	5	7

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec



# Summer Hazards





# Summer Hazards

## ☞ Degraded Flying Operations

- Thunderstorms
  - ◆ Downbursts Gusts
  - ◆ Lightning
  - ◆ Hail

## ☞ High Temperatures

- Coupled with high humidity can cause heat injuries and rapid fatigue
- Ambient temperatures appear to feel warmer than actual temperature (heat index), watch outdoor activity closely

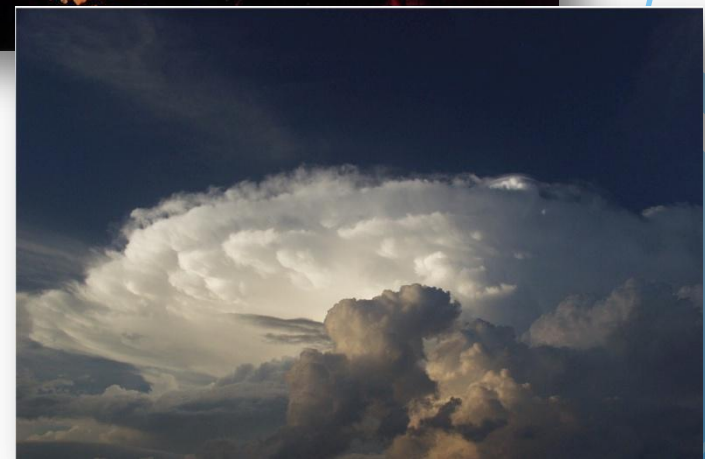




# Summer Hazards



- ☞ Thunderstorms
- Strong gusty wind
  - Turbulence
  - Low ceilings
  - Reduced visibilities
  - Hail
  - Severe weather possible



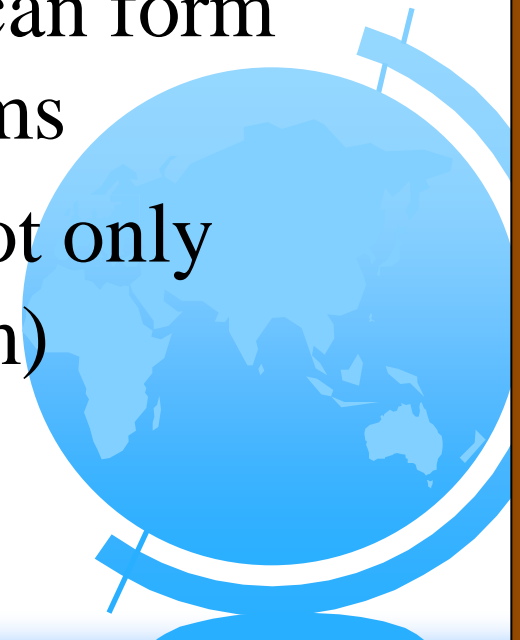




# THUNDERSTORMS



- ☞ Expect severe turbulence, icing, and hail
- ☞ Greatest turbulence between updrafts and downdrafts
- ☞ Gust fronts (pseudo cold front) can form ahead of advancing thunderstorms
- ☞ Expect hail beneath the anvil (not only within or under the thunderstorm)





# SEVERE WEATHER

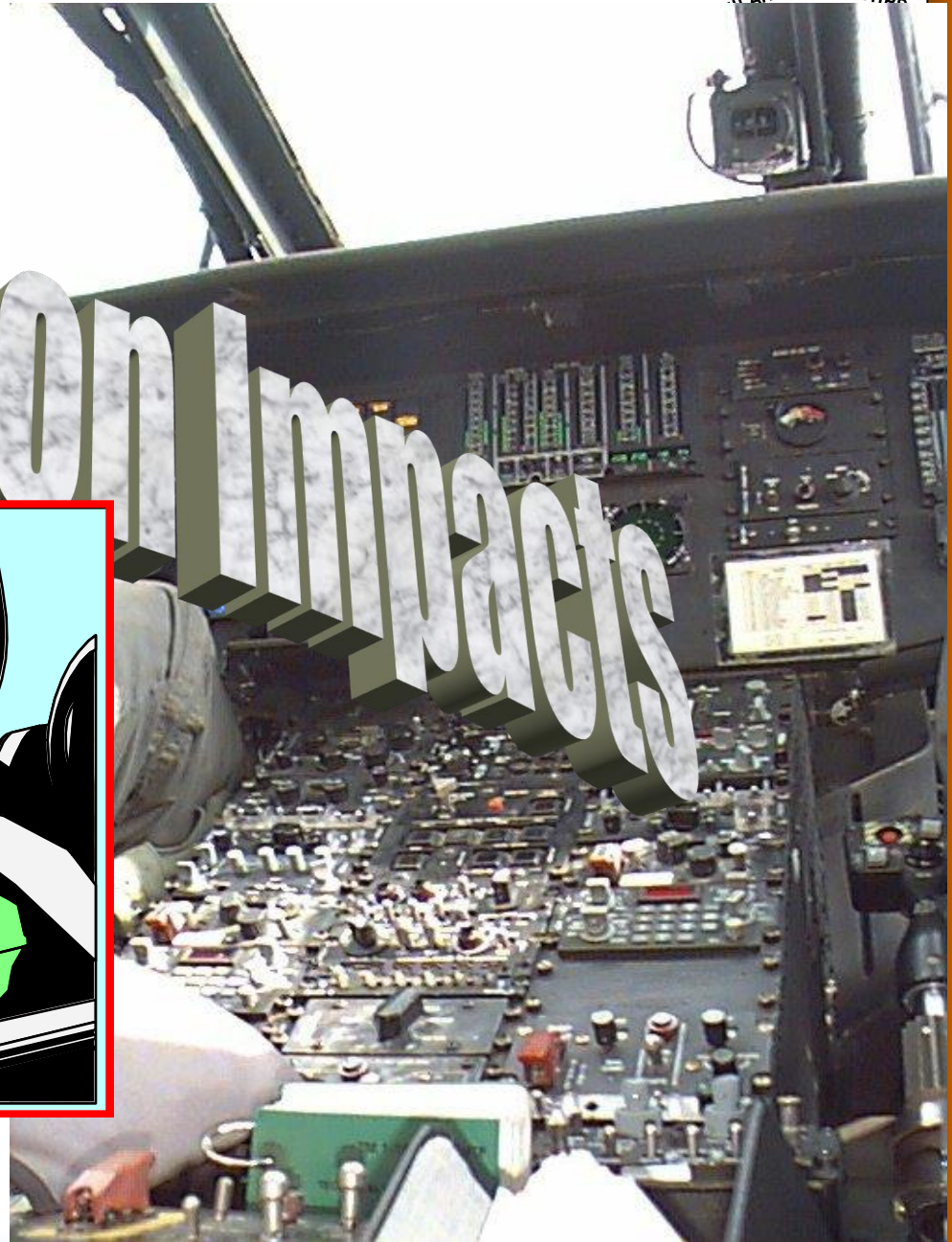


- ☞ Peak season
  - **March through June**
- ☞ Most frequent: afternoon/evening hours
- ☞ Linear formation along or ahead of fronts—dry line thunderstorms
- ☞ **RAPID FORMATION!**
  - **Outflow boundaries enhance further development (usually to the southwest of the line)**





# Aviation Impacts



The image features the word "Lightning" in a large, bold, 3D sans-serif font. The letters are white with a thick grey shadow, giving them a three-dimensional appearance. The text is positioned diagonally across the frame, from the upper left towards the lower right. The background is a dark, stormy sky filled with numerous bright, jagged lightning bolts. One particularly large and bright bolt strikes directly behind the word, creating a strong backlighting effect and illuminating the scene. The overall color palette is dominated by dark blues and greys of the storm, contrasted with the brilliant white and yellow of the lightning.





# LIGHTNING AND ELECTROSTATIC DISCHARGE

- ☞ Leading cause of weather related aircraft accidents
- ☞ Can occur in clear air as well as within and around a thunderstorm





# Turbulence





# TURBULENCE



- ☞ Turbulence is one of the most unexpected aviation hazards to fly through and one of the most difficult to forecast
- ☞ Caused by *abrupt, small-scale variations in wind speed and direction*
- ☞ **Pilot Reports (PIREPS) are crucial!**
  - May trigger advisories to help warn others
  - Always include location, time, intensity, flight level, and aircraft type

***Gray METRO: UHF 306.5 / FM 41.2***





# TURBULENCE

(Continued)



☞ May occur any time without warning

- Directly proportional to speed:

*Faster aircraft=more turbulence experienced*

- Inversely proportional to weight:

*Heavier aircraft=less turbulence experienced*

- Directly proportional to wing area

*Greater distance between leading and trailing edge of wing=more turbulence*





# TURBULENCE

(Continued)



## ☞ Intensities based upon Airspeed & Climb Rate

- Light: Slight, erratic changes in altitude and or attitude (pitch, roll, yaw)
- Moderate: Greater intensity than light, but aircraft remains in positive control
- Severe: Large abrupt changes in altitude/attitude, large variations in airspeed; control becomes very difficult
- Extreme: Aircraft violently tossed around with control virtually impossible; may cause structural damage





# TURBULENCE

(Continued)



- ☞ Also caused by strong wind over rough terrain (*Fort Hood area not considered rough terrain*)
  - Rougher terrain = More turbulence
  - Higher wind speed = More Turbulence
- ☞ Frontal Transition Zone Turbulence
- ☞ Jet Stream (CAT)







# TURBULENCE

(Continued)



- ☞ Wake Turbulence:  
Caused by ‘Wingtip Vortices’
- ☞ Virtually all aircraft produce wingtip vortices while in flight, even rotary wing aircraft; this is especially apparent with heavier aircraft





# LOW-LEVEL WIND SHEAR (LLWS)



- ➡ Rapid change in wind direction or speed below 2,000 feet AGL
- ➡ May occur with or without Turbulence
- ➡ Causes sudden changes in aircraft performance and attitude
- ➡ Common occurrence in Central Texas associated with nocturnal low-level jet
- ➡ Can occur with fronts and thunderstorm gust fronts (microburst)

***Gray METRO: UHF 306.5***





# WEATHER WATCHES



- ➡ Issued for the **potential** of weather conditions that can effect operations and safety at *Ft Hood and/or the Western Training Area* -- Command decision on whether or not operations are altered
- ➡ Valid Times per text
- ➡ Valid for area described in text
  - Western Training Area (Entire area or specific sector(s)--northeast, southeast, southwest or northwest)

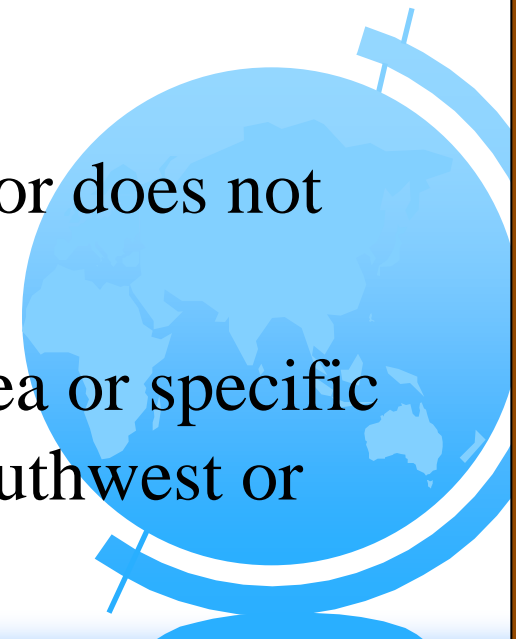




# WEATHER WARNINGS



- ☞ Take actions to protect property and life
- ☞ Valid Times per text
  - Observed Warnings valid Until Further Notice (UFN)
- ☞ Valid for area described in text
  - Fort Hood Reservation (Includes or does not include RGAAF and/or HAAF)
  - Western Training Area (Entire area or specific sector(s)--northeast, southeast, southwest or northwest)







# WEATHER ADVISORIES



- ☞ General -- All Ft Hood **advisories are observed** thus have the same effect on flight ops as warnings do
- ☞ **Terminal Weather Advisories**
  - Valid within 5 NM of RGAAF and HAAF
  - Issued for weather conditions that effect airfield/flight operations and safety
- ☞ **Area Weather Advisories**
  - Valid within 50 NM of Fort Hood Reservation
  - Issued for weather conditions that effect local flight operations/safety





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# Fort Hood Reservation

## Watch / Warning / Advisory

### WEATHER WARNINGS:

- Tornado (30 min)
- Damaging Wind  $\geq 50$  kts (2 hrs)
- Hail  $\geq 3/4$  inch dia (2 hrs)
- High Wind 35-49 kts (90 min)
- Hail  $1/2$ - $<3/4$  inch dia (90 min)
- Lightning (**Observed**)
- Heavy Rain or Snow (90 min)
- Freezing Precipitation (90 min)
- Blizzard Conditions (90 min)

### WEATHER WATCH *(Forecast Potential)*

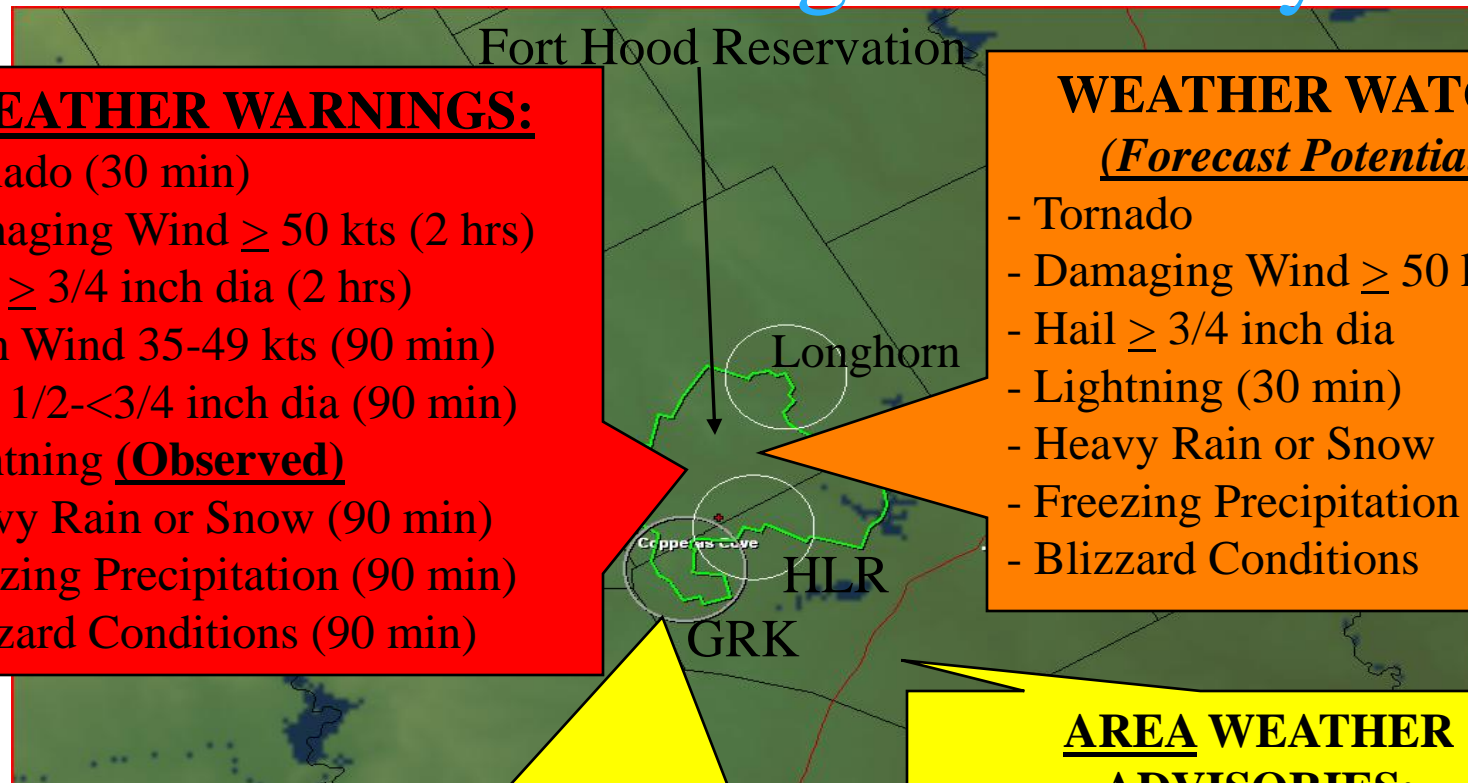
- Tornado
- Damaging Wind  $\geq 50$  kts
- Hail  $\geq 3/4$  inch dia
- Lightning (30 min)
- Heavy Rain or Snow
- Freezing Precipitation
- Blizzard Conditions

### TERMINAL WEATHER ADVISORIES:

WND  $\geq 30$ kts (Observed)  
Gust Sprd  $\geq 15$ kts (Observed)

### AREA WEATHER ADVISORIES:

MDT TURBC (Observed)  
MDT ICG (Observed)  
LLWS  $< 2$ k AGL (Observed)  
Wind Chill  $\leq 10$ F (Observed)





# WESTERN TRAINING AREA

## Watch / Warning

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### **WARNING:**

Thunderstorms (Observed)

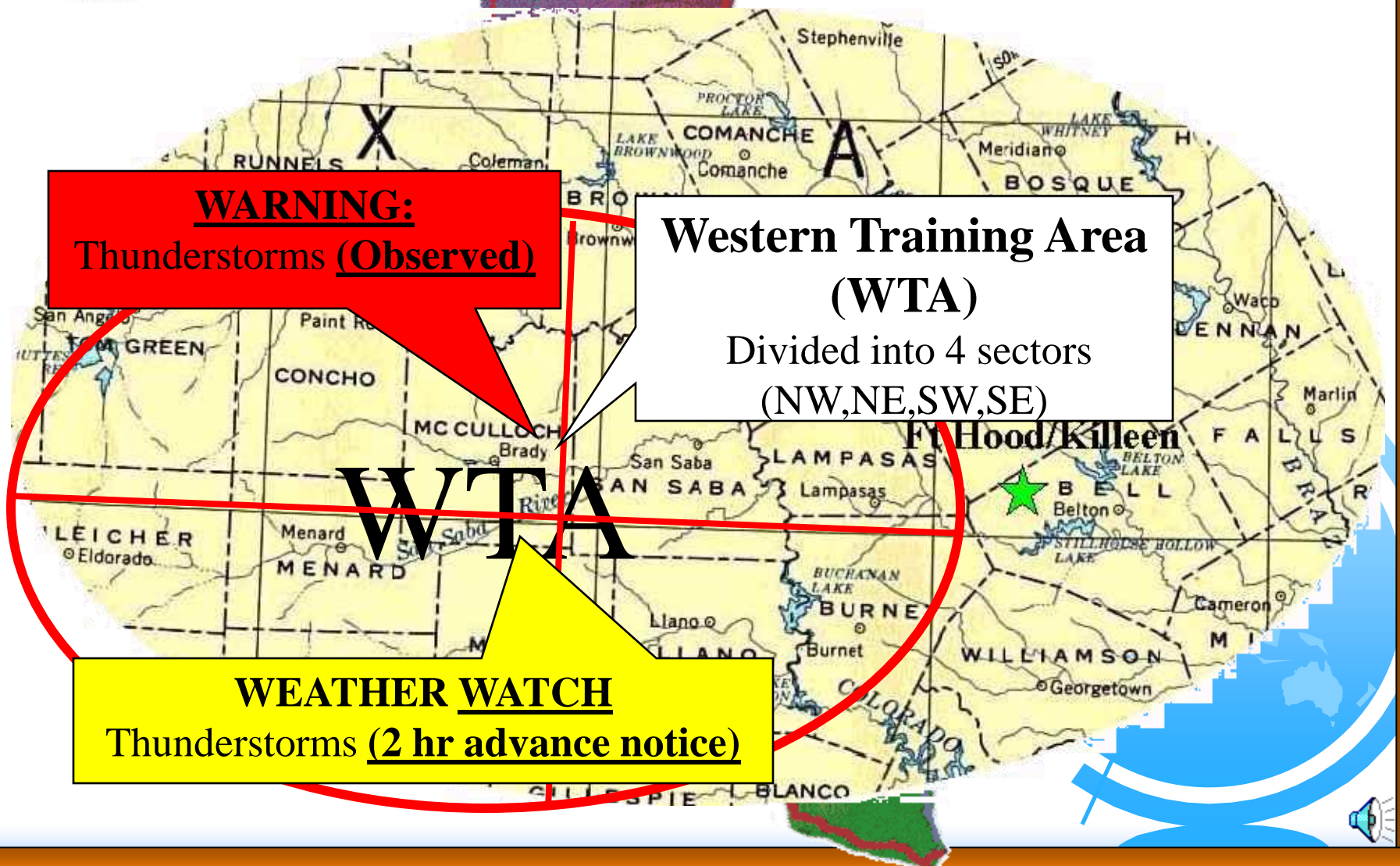
### **Western Training Area (WTA)**

Divided into 4 sectors  
(NW,NE,SW,SE)

# WTA

### **WEATHER WATCH**

Thunderstorms (2 hr advance notice)





# PILOT REPORTS (PIREPS)



☞ Provide forecasters additional observations around the reservation and Western training areas

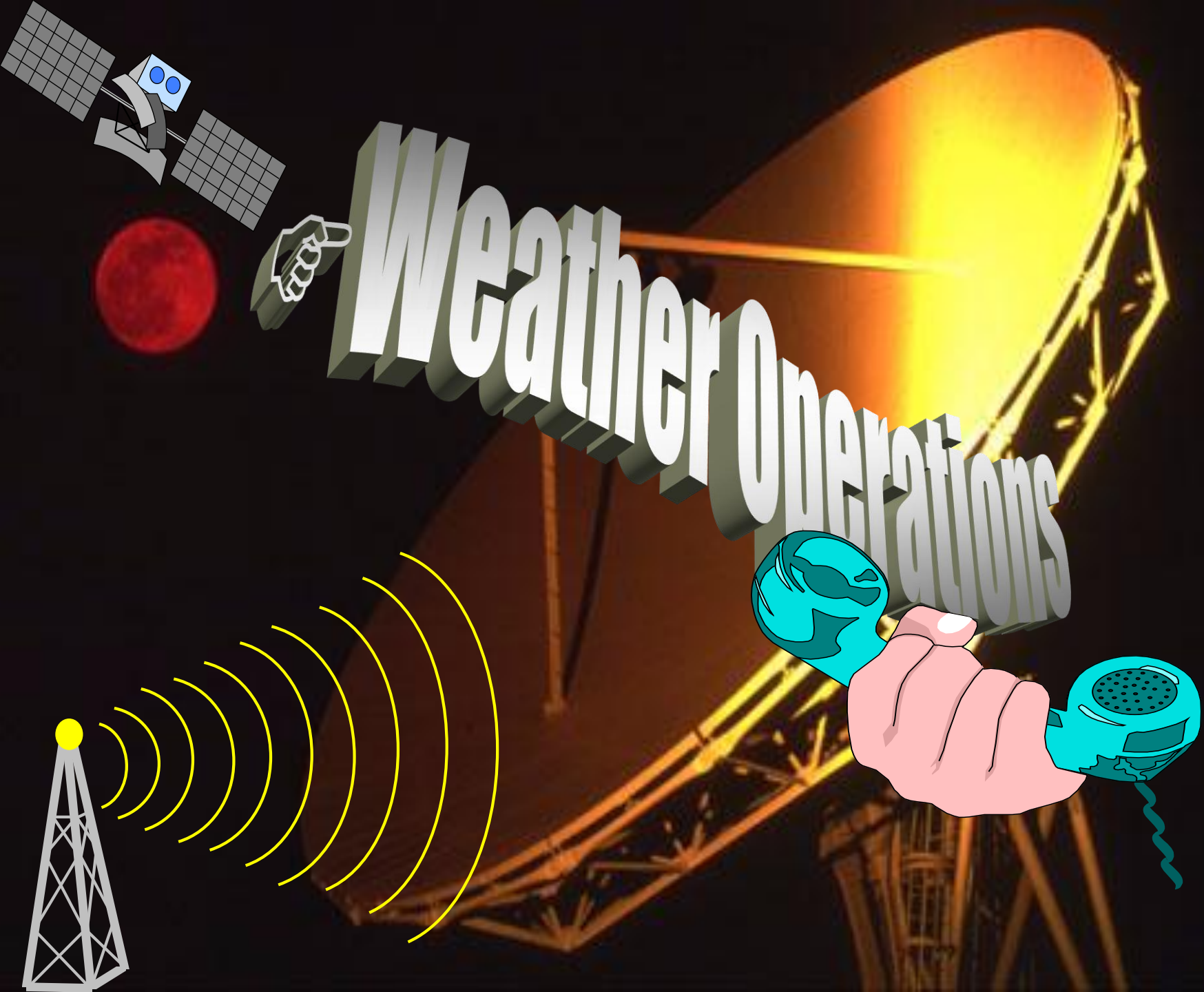
- Thunderstorms
- Turbulence
- Icing
- Low-Level Wind Shear (LLWS)
- Cloud conditions
- Wind, temperature, etc..
- Visibility, weather (i.e., fog, rain, etc.)

☞ PMSV frequencies: **UHF 306.5**

PLEASE CALL US!!!











# RGAAF Weather Station Operations



- ☞ RGAAF Weather Station located on West Fort Hood, Airfield Ops Bldg 90029:
  - 24/7 Operations
  - 2 Forecasters Mon-Fri 0600-1400L
  - 1 Forecaster Nights, Weekends, & Holidays
  - Manual Weather Observations
  - Flight Weather Briefings
- ☞ HAAF: Automated Weather Observations Only

***Gray METRO: UHF 306.5***





# FLIGHT WEATHER BRIEFINGS



☞ Call 288-9620 or 288-9400

☞ E-mail: [hood.3asog3ws.woc@us.army.mil](mailto:hood.3asog3ws.woc@us.army.mil)

☞ Please arrange DD175-1 weather briefings as far in advance as possible

☞ **IAW AR 95-1, ONLY PILOTS CAN RECEIVE FLIGHT WEATHER BRIEFINGS**





# FLIGHT WEATHER BRIEFINGS (Continued)

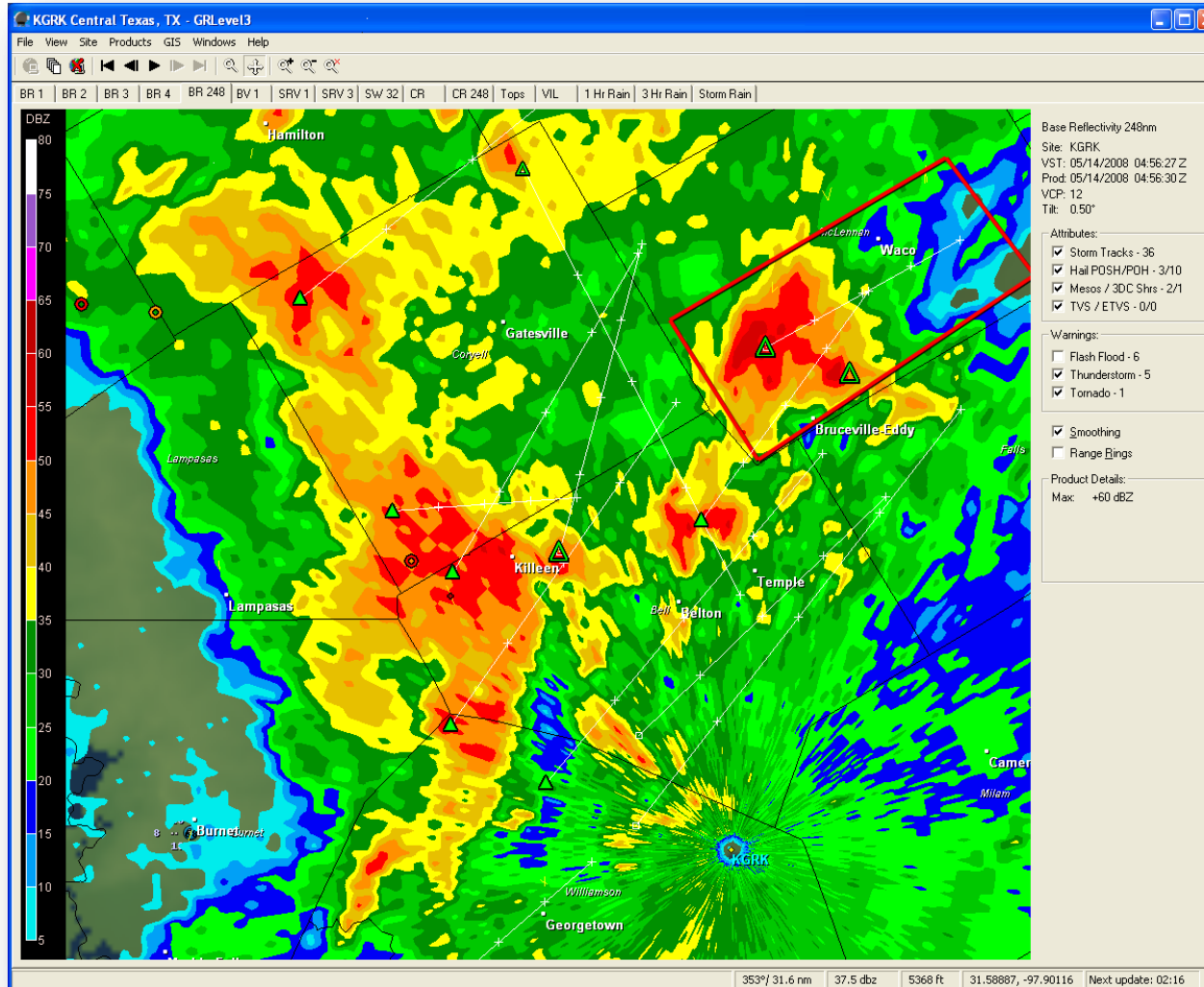


- ☞ DD175-1 Weather Briefs can be faxed or E-mailed
- ☞ **IMPORTANT:** Aircrews must call 288-9620/9400 after receiving the brief for briefer's initials, brief & void times--otherwise briefing is not official!
- ☞ For weather information visit our web site:  
[www.hood.army.mil/3ws](http://www.hood.army.mil/3ws)
  - Current local airfield weather conditions
  - Current weather watches, warnings, advisories
  - Other weather information products





# DOPPLER RADAR TECHNOLOGY





# DOPPLER RADAR TECHNOLOGY



- ☞ Tracks storm movement
- ☞ Provides vertical wind profiles (LLWS)
- ☞ Determine storm relative motion
- ☞ Highlights “potential” severe weather
  - Hail
  - Storm rotation--Tornadoes
- ☞ Cross-sections







# 3D Weather Squadron Homepage

[www.hood.army.mil/3ws](http://www.hood.army.mil/3ws)





# Fort Hood Home Page



INSTALLATION STATUS: Welcome to Fort Hood's updated web presence - designed to enhance

HOOD A-Z HOOD FMWR IMCOM FORSCOM CENTCOM ARMY HOME DEFENSE LINK WEATHER FA ARMY A-Z AKO

**HOOD.ARM.Y.MIL**  
WELCOME TO FORT HOOD, TEXAS

search hood.arm.y.mil Search FORT H

**INSTITUTION HOME**

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- PHANTOM DISTRO
- NEWCOMERS
- UNITS ON POST
- SOLDIER RESOURCES
- EDUCATION & TRAINING
- FAMILY FOCUS
- CIVILIANS & CONTRACTORS
- FRIENDS & PARTNERS
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- RETIRES & VETS
- LINKS
- FEEDBACK
- PRIVACY & SECURITY

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The next step in your Army Career

**Civilian Spotlight**  
Former Dallas Cowboys linebacker Eugene "The Hitting Machine" Lockhart visited wounded warriors

**Soldier dead**  
By Heather Graham, Ser  
Specialist Aar Mulberry, Ind., a found dead fol Thursday by Fort his Pershing Park  
Allmandinger's not home when t

CAMP TAJIL, Iraq area defense set CAB, 4th Inf. Di perimeter security guard tower on C sergeant of the responsible for CAB's assigned necessary equip duties necessary brigade's Soldiers from enemy attac

< Previous

and climate forecasts and warnings for the United States, its territories, adjacent waters and ocean areas, for the protection of life and property and the enhancement of the national economy. NWS data and products form a national information database and infrastructure which can be used by other governmental agencies, the private sector, the public, and the global community. Get the latest Fort Hood weather from any Internet portal by clicking on:

Further, complaints must be promptly filed within IG, command, or other grievance channels. IG's may dismiss a complaint if there is no FWA, recognizable wrong or violation of law, regulation, or policy. Also, complaints should be received in a timely manner.

<http://www.srh.noaa.gov/forecast/MapClick.php?CityName=Killeen&state=TX&site=FWD>

**3d Weather Squadron**

The squadron is the largest base- or post-level weather unit in the Air Force. The support provided by the squadron is as diverse as its history and that of the Army customers it supports. For example, the squadron maintains a 24-hour observing and forecasting section at Robert Gray Army Airfield with automated observing at Hood Army Airfield.

The latest weather information for professional aviators - or anyone with AKO access - is online at: <http://www.hood.army.mil/3ws>.

**NOAA Storm Watch**

You'll find links to the latest weather forecasts around the USA. Track storms through NOAA weather satellites, get the latest weather maps and learn how to protect yourself and your community from severe weather. Hurricane, drought and tornado information can be found at the listed NOAA Web sites. Check it out online at: <http://www.noaa.gov/stormwatch/>.

**National Hurricane Center**

Click here,  
then here



# 3D Weather Squadron Homepage



Current MEF (Flimsy)

Current WWAs

Misc Briefings

Current Obs

3rd Weather Squadron - Windows Internet Explorer provided by US Army - Fort Hood NIPRNet  
http://www.hood.army.mil/3ws/

3rd Weather Squadron

## 3d Weather Squadron

Fort Hood, Texas

U.S. AIR FORCE "2010 AIR FORCE OUTSTANDING BATTLEFIELD WEATHER SQUADRON" U.S. ARMY

WEDNESDAY, JUNE 29

HOME

MISSION EXECUTION FORECAST/5-DAY FORECAST	
Mission Execution Forecast	5-Day Forecast

SATELLITE/RADAR/LIGHTNING/HAZARDS	
Satellite Imagery	Fort Hood Doppler Radar

**FORT HOOD WEATHER**

**\*FORT HOOD WEATHER WATCHES, WARNINGS, AND ADVISORIES (WWA)**  
Click above for active Weather Watches, Warnings, and Advisories for Fort Hood

**\*KGRK OBSERVATION & TAF**  
**\*KHLR OBSERVATION**  
\* Denotes .mil access required

**AVIATION WEATHER**

PILOT REPORTS (PIREPS)  
AIRMETS/SIGMETS  
SPACE WEATHER IMPACTS

CLICK BELOW FOR FLIGHT WEATHER BRIEFINGS OR OTHER REQUESTS FOR WEATHER SUPPORT:

**WEATHER STATION E-MAIL**  
**RGAAF PMSV (Gray Metro):**

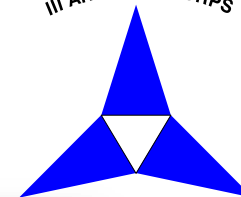
**BRIEFINGS**

SEMI-ANNUAL AVIATION WEATHER BRIEF (SUMMER)  
SEMI-ANNUAL AVIATION WEATHER BRIEF (WINTER)  
AIR TRAFFIC CONTROL WEATHER TRAINING  
MANUAL WEATHER OBSERVING - JET  
DRY-LINE FORECASTING  
3 WS MTRF/RIRF DRYLINE EXAMPLE  
TURBULENCE--AIRCRAFT CATEGORIES  
RADAR IMAGES TORNADO 25APR11  
PERFORMANCE METRICS: HOW WELL ARE WE FORECASTING?  
DoD WEATHER  
\*JOINT ARMY-AF WEATHER INFORMATION NETWORK (JAAWIN)



# 5-Day Forecast

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PHANTOM



## Fort Hood

October Climatology  
Avg Hi: 79F Avg Low: 59F  
Avg Precip: 3.6 Inches

## 5-Day Weather Outlook & Effects

AS OF 0500 HRS LOCAL 12 OCT 10

FORECAST	Tue 12 Oct 10		Wed 13 Oct 10		Thu 14 Oct 10		Fri 15 Oct 10		Sat 16 Oct 10								
	LO: 57F/14C	HI: 86F/30C	LO: 59F/15C	HI: 79F/26C	LO: 50F/10C	HI: 79F/26C	LO: 45F/7C	HI: 81F/27C	LO: 46F/8C	HI: 79F/26C							
	WIND CHILL	N/A	WIND CHILL	N/A	WIND CHILL	N/A	WIND CHILL	43F/6C	WIND CHILL	44F/6C							
	10G15 KTS	10G15 KTS	8 KTS	11 KTS	6 KTS	6 KTS	3 KTS	5 KTS	5 KTS	6 KTS							
	4 MI / NO CIG	7 MI / NO CIG	7 MI / NO CIG	7 MI / NO CIG	7 MI / NO CIG	7 MI / NO CIG	7 MI / NO CIG	7 MI / 25000FT	7 MI / 25000FT	7 MI / NO CIG							
	NIIST	CLEAR	CLEAR	CLEAR	CLEAR	CLEAR	CLEAR	MOSTLY CLOUDY	MOSTLY CLOUDY	CLEAR							
	BUNT: 0540	EENT: 1955	BUNT: 0640	EENT: 1954	BUNT: 0641	EENT: 1953	BUNT: 0642	EENT: 1952	BUNT: 0642	EENT: 1951							
	SR: 0732	SS: 1903	SR: 0733	SS: 1902	SR: 0733	SS: 1901	SR: 0734	SS: 1900	SR: 0735	SS: 1859							
	MR: 1246	MS: 2301	MR: 1335	MS: 2359	MR: 1419	MS: "	MR: 1458	MS: 0057	MR: 1630	MS: 0163							
SOLAR / LUNAR DATA	DARK PERIOD: 6:40 / 0:50	MOON PERIOD: 3:06	DARK PERIOD: 6:40 / 0:01	MOON PERIOD: 4:05	DARK PERIOD: 6:41	MOON PERIOD: 4:07	DARK PERIOD: 5:45	MOON PERIOD: 0:57 / 4:08	DARK PERIOD: 4:49	MOON PERIOD: 1:53 / 4:00							
ILLUM DATA	33%		43%		53%		63%		72%								
HELIO																	
UAV																	
CONVOY																	
PERSONNEL	T																
CAS																	
JLENS																	
RADAR																	
INFRARED SENSORS	RH																
VISUAL SENSORS	RH																
TIME	00	06	12	18	00	06	12	18	00	06	12	18	00	06	12	18	00

FORECASTER: J WS

T - Temperature RH - Rel Humidity  
FOR OFFICIAL USE ONLY

FOR PLANNING PURPOSES ONLY

Integrity - Service - Excellence

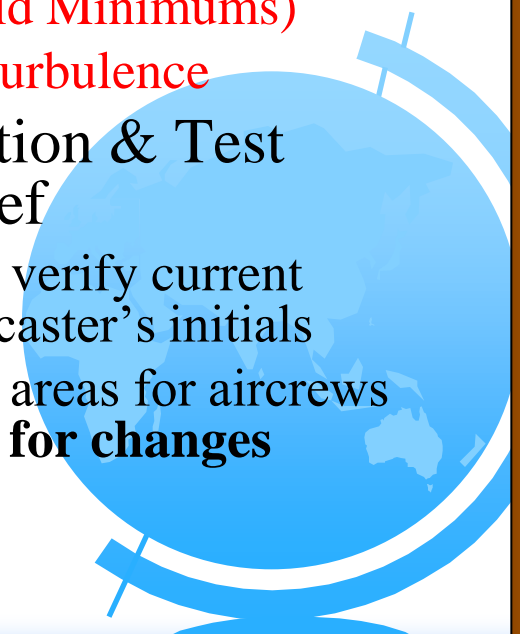




# 3 WS Mission Planning & Execution Forecast (Flimsy)



- ➡ Located on our web page: [www.hood.army.mil/3ws](http://www.hood.army.mil/3ws)
- ➡ Updated 3 times daily (0000Z, 0800Z, 1600Z)
- ➡ Amended:
  - Ceiling 3000 ft
  - Ceiling/Visibility 1000 ft / 3 SM (IFR – VFR)
  - Ceiling/Visibility 500 ft / ½ SM (HAAF Airfield Minimums)
  - Thunderstorms, Moderate or Greater Icing & Turbulence
- ➡ Aircrews flying within Fort Hood Reservation & Test Flight Areas III/V must call for official brief
  - Call the weather station at 288-9620 or 9400 to verify current Flimsy #, any updates, brief/void time and forecaster's initials
  - Units' ops may post copy of flimsy in common areas for aircrews  
**(IMPORTANT: Check website periodically for changes especially during inclement weather)**









# MEF (Flimsy)




CALL 3 WS AT DSN 738-9630/9400, COM 288-9630/9400 FOR AN OFFICIAL FLIGHT WEATHER BRIEF CLICK HERE FOR LATEST WEATHER WATCHES, WARNINGS, AND ADVISORIES (OR GO TO 3 WS WEBP)									
PORT HOOD MISSION PLANNING-EXECUTION FORECAST							#19	C	REVISION #
FORECASTER		SKA GREENE		VALID TIME		291600Z-300400Z		REVISION TIME	
WEBSITE		www.hood.army.mil/3ws				MONTH		JUNE	YEAR
SOLAR/LUNAR DATA (ALL TIMES LOCAL)									
BMNT	SR	SS	EVENT	MR	MS	ILLUM	MOON ANGLE ≥30 DEG	 Your Feedback is important us know how we're doing	
30/0529	30/0631	29/2039	29/2141	30/0547	29/2217	5%	DAYLIGHT		
FLIGHT LEVEL WIND AND TEMP (°C) - LOCAL FLYING AREA							SPACE WEATHER EFFECTS		
500' (AGL)	15015	15015	15015	15015	15015	10020	09015	GPS	G Unlikely Degradation
15015	15015	15015	15015	15015	15015	10020	09015	UHF	G Unlikely Degradation
+26	+23	+22	+20	+18	+16	+15	+12	HF	G Unlikely Degradation
MINIMUM FREEZING LEVEL (MSL)						15000 Ft			
						GRAY METRO PMSV 306.5 UHF/41.2			
FLIGHT HAZARDS WITHIN ~150NM OF FORT HOOD (LOCAL FLYING AREA IAW FHR95-1)									
MAIL SEVERE TURBULENCE & ICING, HEAVY PRECIP, LIGHTNING & WIND SHEAR EXPECTED IN & NEAR THUNDERSTORMS									
HAZARD		LEVEL (MSL)		INTENSITY-COVERAGE				LOCATION	
TSTMS		MAX TDS						NONE	
ICING								NONE	
TURB CAT II		020-100		LGT OCNL MDT				N OF TPL AND E OF ABI	
TURB CAT I		020-100		MDT				N OF TPL AND E OF ABI	
CAT II AIRCRAFT (UH-60, AH-64, CH-47, BE-20, UC-35, C-208) // CAT I AIRCRAFT (UH-1, OH-58, HUNTER UAS, SHADOW UAS)									
NOTE: AN AIRCRAFT'S WEIGHT, AIRSPEED, AND/OR ALTITUDE MAY CHANGE ITS TURBULENCE CATEGORY FROM ITS DEFAULT CATEGORY									
RGAAP AND HAAAP TAKEOFF AND LANDING DATA									
VALID TIME		MIN ALSTG		MAX TMP		RGAAP (KGRK)		HAAAP (KHLR)	
1600Z - 1900Z		30.04 INS		36 97		905 Ft		4184 Ft	
1900Z - 2200Z		29.96 INS		38 100		979 Ft		4562 Ft	
2200Z - 0100Z		29.94 INS		38 100		997 Ft		4585 Ft	
0100Z - 0400Z		29.94 INS		36 97		979 Ft		4297 Ft	
0400Z - 0700Z		29.96 INS		30 86		979 Ft		3434 Ft	
0700Z - 1000Z		29.95 INS		27 81		983 Ft		3637 Ft	
1000Z - 1300Z		29.97 INS		24 75		970 Ft		2611 Ft	
1300Z - 1600Z		30.00 INS		30 86		942 Ft		3389 Ft	
FT HOOD RESERVATION FORECAST (INCLUDES RGAAP, HAAAP, AND TEST AREAS III AND V)									
TIME (Z)		WIND (KTS)		VISIBILITY/WEATHER				CLOUDS/CEILINGS (AGL)	
29/1600-29/2100		18006		?				CLR	
29/2100-30/0100		15012		?				CLR	
30/0100-30/0400		15006		?				CLR	
NOTE: ABOVE CONDITIONS ARE THE MINIMUM EXPECTED									
FORECAST FOR PORT HOOD RESERVATION WILL BE AMENDED FOR: CEILINGS 3000', 1000', AND 500' TUNDERSTORMS VISIBILITY 3 MILES AND 1/2 MILE MODERATE OR GREATER ICING/TURBULENCE									
PORT HOOD RESERVATION 24-HR PLAIN LANGUAGE FORECAST		CLEAR SKIES THROUGHOUT THE DAY WITH SOUTHEASTERLY WINDS GUSTING UP TO 15KTS (17MPH). HIGH LOW 100S, LOW TEMP IN MID 70S.							
WESTERN TRAINING AREA FORECAST									
ROUTE		WIND / VISIBILITY / SIG WEATHER / SKY CONDITION (AGL)							
YELLOW ROUTE		15012 7 CLR // AFT 012 15006 7 CLR							
RED ROUTE		15012 7 CLR // AFT 012 15006 7 CLR							
BLUE ROUTE		15012 7 CLR // AFT 012 15006 7 CLR							
GREEN ROUTE		15012 7 CLR // AFT 012 15006 7 CLR							
NOTE: ABOVE CONDITIONS ARE THE MINIMUM EXPECTED									
CALL 3 WS AT DSN 738-9630/9400, COM 288-9630/9400 FOR AN OFFICIAL FLIGHT WEATHER BRIEF CLICK HERE FOR LATEST WEATHER WATCHES, WARNINGS, AND ADVISORIES (OR GO TO 3 WS WEBP)									



## 3d Weather Squadron

Fort Hood, Texas



HOME

**"2010 AIR FORCE OUTSTANDING BATTLEFIELD WEATHER SQUADRON"**

3d Weather Squadron - Windows Internet Explorer provided by US Army - Fort Hood NIPRNet

http://www.hood.army.mil/3ws/

File Edit View Favorites Tools Help

3d Weather Squadron Welcome to Tabbed Brow...

MISSION EXECUTION FORECAST/5-DAY FORECAST

MISSION Execution Forecast

5-Day Forecast

SATELLITE/RADAR/LIGHTNING/HAZARDS

Satellite Imagery

Fort Hood Doppler Radar

BRIEFINGS

SEMI-ANNUAL AVIATION WEATHER BRIEF (SUMMER)

SEMI-ANNUAL AVIATION WEATHER BRIEF (WINTER)

AIR TRAFFIC CONTROL WEATHER TRAINING

MANUAL WEATHER OBSERVING - JET

DRY-LINE FORECASTING

3 WS PIREF/RIRF DRYLINE EXAMPLE

TURBULENCE-AIRCRAFT CATEGORIES

RADAR IMAGES TORNADO 25APR11

PERFORMANCE METRICS: HOW WELL ARE WE FORECASTING?

DoD WEATHER

Click here

[www.hood.army.mil/3ws/Flimsy/MEF.pdf](http://www.hood.army.mil/3ws/Flimsy/MEF.pdf)



III ARMORED CORPS



# MEF – Flight Hazards

**FLIGHT HAZARDS WITHIN ~150NM OF FORT HOOD (LOCAL FLYING AREA IAW FHR95-1)**

***HAIL, SEVERE TURBULENCE & ICING, HEAVY PRECIP, LIGHTNING & WIND SHEAR EXPECTED IN & NEAR THUNDERSTORMS***

HAZARD	LEVEL (MSL)	INTENSITY/COVERAGE	LOCATION
TSTMS	MAX TOPS 450	ISOLD	NORTH OF A LINE FROM CLL-GRK-SJT
ICING	060-160	LGT RIME	N1/2 LOCAL FLYING AREA (N OF AUS) TIL 21Z
TURBC CAT II	SFC-080//180-400	LGT-MDT // MDT	ENTIRE LFA TO INCLUDE FORT HOOD RES TIL 00Z
TURBC CAT I	SFC-080	MDT	ENTIRE LFA TO INCLUDE FORT HOOD RES TIL 00Z

CAT II AIRCRAFT (UH-60, AH-64, CH-47, BE-20, UC-35, C-208) // CAT I AIRCRAFT (UH-1, OH-58, HUNTER UAS, SHADOW UAS)

*NOTE: AN AIRCRAFT'S WEIGHT, AIRSPEED, AND/OR ALTITUDE MAY CHANGE ITS TURBULENCE CATEGORY FROM ITS DEFAULT VALUE*



**Local Flying Area (LFA) – FHR95-1**



# MEF – Turbulence



FLIGHT HAZARDS WITHIN ~150NM OF FORT HOOD (LOCAL FLYING AREA IAW FHR95-1)				
HAIL, SEVERE TURBULENCE & ICING, HEAVY PRECIP, LIGHTNING & WIND SHEAR EXPECTED IN & NEAR THUNDERSTORMS				
HAZARD	LEVEL (MSL)		INTENSITY/COVERAGE	LOCATION
TSTMS	MAX TOPS	450	ISOLD	NORTH OF A LINE FROM CLL-GRK-SJT
ICING	060-160		LGT RIME	N1/2 LOCAL FLYING AREA (N OF AUS) TIL 21Z
TURBC CAT II	SFC-080//180-400		LGT-MDT // MDT	ENTIRE LFA TO INCLUDE FORT HOOD RES TIL 00Z
TURBC CAT I	SFC-080		MDT	ENTIRE LFA TO INCLUDE FORT HOOD RES TIL 00Z
CAT II AIRCRAFT (UH-60, AH-64, CH-47, BE-20, UC-35, C-208) // CAT I AIRCRAFT (UH-1, OH-58, HUNTER UAS, SHADOW UAS)				
NOTE: AN AIRCRAFT'S WEIGHT, AIRSPEED, AND/OR ALTITUDE MAY CHANGE ITS TURBULENCE CATEGORY FROM ITS DEFAULT VALUE				

- ➡ Different types of aircraft have different sensitivities to turbulence
  - ➡ An aircraft's sensitivity varies considerably with its weight (amount of fuel, cargo, munitions, etc.), air density, wing surface area, wing sweep angle, airspeed, and aircraft flight "attitude"
  - ➡ An aircraft's weight, airspeed, and/or altitude may change its turbulence category from its default value
- ➡ **Turbulence forecasts in TAFs are for CAT II aircraft**



# UAS (Shadow) MEF



- Use 3 WS MEF (Flimsy) for mission planning
- Contact RGAAF weather station for actual flight weather briefs
  - Provide Unit, Phone #, Location (i.e., LSCS), Aircraft Tail#, Launch/Landing Time, Flight Level, and Pilot Name

## SHADOW UAS MISSION EXECUTION FORECAST

MONTH/YEAR:

UNIT / PHONE#:

LOCATION:

TAIL #	LAUNCH DTG:	RECOVERY DTG:	FLIGHT LEVEL:
TEMP (C)		WIND/TEMP ALOFT (C)	
DEWPOINT (C)		2K MSL	
RH (%)		4K MSL	
ALSTG		6K MSL	
PA		8K MSL	
DA		10K MSL	
SFC WIND--LAUNCH		THUNDERSTORMS	
SFC WIND--RECOVERY		TURBULENCE (CAT I Aircraft)	
MIN VIS / WX		ICING	
MIN CIG			
FREEZING LVL		BRIEF / VOID TIME	
WWA (#)		INITIALS BRIEFER/PILOT	
		EXTENDED TIME	
		INITIALS BRIEFER/PILOT	





# UAS (Shadow) MEF



## SHADOW UAS MISSION EXECUTION FORECAST

MONTH/YEAR:

UNIT / PHONE#:

LOCATION:

TAIL #	LAUNCH DTG:	RECOVERY DTG:	FLIGHT LEVEL:
TEMP (C)		WIND/TEMP ALOFT (C)	
DEWPOINT (C)		2K MSL	
RH (%)		4K MSL	
ALSTG		6K MSL	
PA		8K MSL	
DA		10K MSL	
SFC WIND-LAUNCH		THUNDERSTORMS	
SFC WIND-RECOVERY		TURBULENCE (CAT I Aircraft)	
MIN VIS / WX		ICING	
MIN CIG			
FREEZING LVL		BRIEF / VOID TIME	
WWA (#)		INITIALS BRIEFER/PILOT	
		EXTENDED TIME	
		INITIALS BRIEFER/PILOT	

Minimum/worst conditions expected for the mission duration





# Forecast Performance Metrics



- ➡ How well are we forecasting mission impacting weather?
- ➡ **Best measure of our performance is direct feedback from aircrews:**
  - ➡ Click on “Feedback Icon” on flimsy; send an E-mail
  - ➡ Complete Flight Weather Briefing Feedback Form on our webpage or faxed with all DD175-1s
  - ➡ Call RGAAF weather station NCOIC at 288-9166
- ➡ We’ll take good and bad comments!!!





# Monthly Performance Metrics



☞ Check out our monthly performance reports on our web site: [www.hood.army.mil/3ws/MEFVERFeedback.ppt](http://www.hood.army.mil/3ws/MEFVERFeedback.ppt)



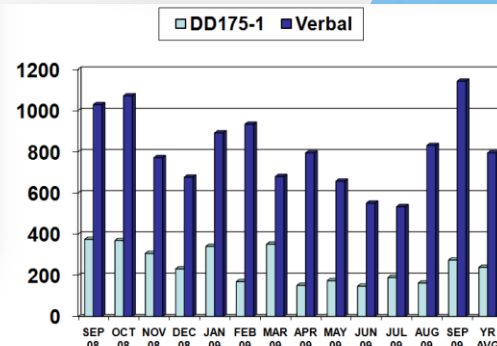
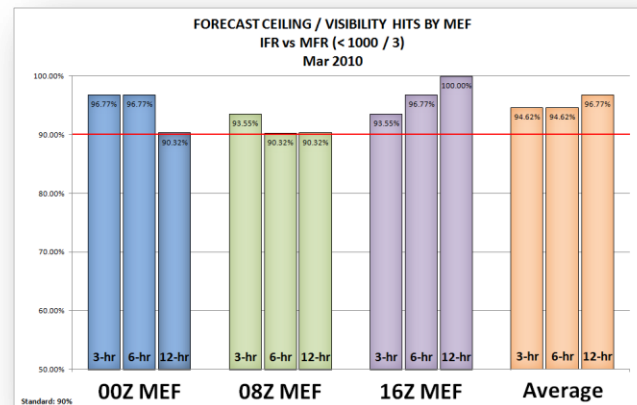
## 3<sup>d</sup> Weather Squadron

*Integrity - Service - Excellence*

### FORECAST PERFORMANCE METRICS



RGAAF Weather Station  
February 2012





# Objective Verification



☞ In addition to direct feedback we employ an objective method to measure (verify) our forecast performance:

☞ We selected three key operational parameters:

☞ **Ceiling / Visibility < 1000 feet / 3 miles (IFR)**

☞ **Ceiling / Visibility < 500 feet / 1/2 mile (HLR Airfield Minimums)**

☞ **Thunderstorms**

☞ We measure the accuracy of each Fort Hood Reservation Forecast (Flimsy) published on the 3 WS web page

☞ We use observations at GRK, HLR, and GOP (Gatesville) and any PIREPs to verify each flimsy at the 3-, 6-, and 12-hour point from the original issuance time

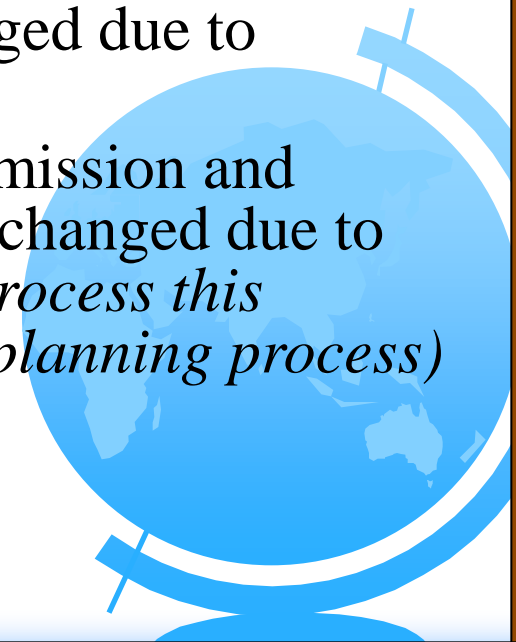




# Did the Forecast or Weather Impact the Mission?



- ☞ Did we forecast **“GO”** weather for your mission and weather was a **“GO”** -- mission completed
- ☞ Did we forecast **“GO”** weather for your mission and weather was a **“NO GO”** -- mission cancelled or changed due to un-forecast weather
- ☞ Did we forecast **“NO GO”** weather for your mission and weather was **“GO”**-- mission cancelled or changed due to forecast (*lost opportunity or needless change*)
- ☞ Did we forecast **“NO GO”** weather for your mission and weather was **“NO GO”** -- mission cancelled or changed due to forecast/weather (*if inserted early in planning process this situation can prevent wasted time and enhance planning process*)





# POCs



- 3 WS Commander: **288-1313**
- 3 WS Operations Officer: **287-7397**
- Operations Superintendent: **287-2948**
- RGAAF Weather Station NCOIC: **288-9166**
- RGAAF Weather Station: **288-9620/9400**
- Corps Weather Plans **288-9176/5965/0197**

***Gray METRO: UHF 306.5***







# SUMMARY



- ➡ Local Area Influences
- ➡ Summer Climatology
- ➡ Hazards
- ➡ Training Areas
- ➡ Watches/Warnings/Advisories
- ➡ Weather Operations
- ➡ POCs



**THE END**



**Any question or comments?**

